FARM DEPARTMENT.

BY W. A. PEFFER.

Destruction of Cattle Ticks.

Among many other good things done by the Department of Agriculture has been the experimental study of the effect of the different substances in destroying ticks which spread the infection of Texas fever. It has been found recently that a petroleum product known as paraffin oil will destroy the ticks without greatly irritating the skins of the animals to which it is applied. It is thought by dipping the animal twice in this oil, with an interval of a few days, all the ticks will be destroyed, and the animals, even from the infected district, may hereafter be shipped with safety to any part of the country. If this hope is fulfilled the dipping of cattle from the infected district must soon become general and will save millions of dollars to the Southern States and more thoroughly protect Northern cattle.

How Texas Fever is Spread.

For a long time there was a mystery connected with the spread of Texas fever among cattle. It was known that animals free from the disease, if allowed to graze on lands that the Southern cattle had fed on the same year after the opening of spring, they were liable to take the fever; but it was not generally believed that the disease was spread by contagion, for Southern and Northern cattle, grazing in adjoining pastures with a road or stream or other permanent partition between them, were not injured.

The tick theory is now generally adopted. A correspondent reporting the proceedings of the late meeting of cattlemen to consider the quarantine line thus briefly states the tick theory:

"The ticks suck themselves full of blood from infected cattle in the South, and later may be carried by apparently healthy cattle to Northern stock yards. When once in the North the ticks drop off the cattle, lay eggs, and then die. The young ticks that are incubated afterward from the eggs are said to be hatched full of fever microbes. Singular to say, it is these young ticks that carry the Texas fever germs and spread the fever among Northern cattle. For this reason all large stock yards in the North have two sections, one for the yarding of Southern cattle separately and one for the yarding of Northern cattle."

Future of the Butter Industry in the United States.

Mr. Secretary Wilson is devoting a great deal of attention to the butter industry of the United States. His shipping packages to England last summer and his reports thereabout the readers of the Advocate were informed. The experiment, though not wholly a success, was altogether satisfactory. It proved beyond question that American butter-makers can produce as good an article in this line as is made anywhere in the world, not excepting the dairymen of Denmark. And it proved more—that our butter can be shipped across the Atlantic ocean without in the least impairing its properties or its quality.

And this is another instance showing the beneficent uses to which the functions of government may be applied. Probably not in many years would any private citizen or company undertake the work that has been done in a few months by the representative of agriculture in the President's Cabinet. It is to be desired that the convention of the National Creamery Butter-Makers' Association, to be held in Topeka February 21-26, next, will be largely attended. That meeting can do a great deal to stimulate and encourage the industry in this country. When grass and grain are put into eggs, meat, milk or butter, they have been reduced to the smallest bulk and most valuable form before marketing, and thus a vast amount of waste and a great deal of expensive transportation are saved to the producer.

Roots for Winter Feeding.

Every farmer ought to so arrange his that he could have roots for winter. Besides the nutriment afforded by the roots, they are healthful, promoting digestion and generally tending to keep the animals in good condition. While turnips are not equal to beets or mangels they cost less and furnish sheep and cattle succulent feed when they need a change or relish with dry feed. Herein is the special value of roots. They have not in themselves enough dry matter to make them a substitute for grain and fodders, but daily rations of roots tone up the appetite and help digestion so a larger per cent. of the coarser and richer feeds is digested.

Discussing this subject, a correspondent of the Breeder's Gazette lays special stress on this point of healthfulness. He thinks that as a help to keep animals in condition during our long winters and late springs roots have no equal when grass and clover are not available. We cannot grow roots as well nor feed them as well as the English farmers can, as their growing season is less subject to drought and their normal amount of moisture is in excess of ours. We cannot let the sheep harvest the turnip crop in the field because our winters are not so open. This necessitates the extra labor of putting into cellars or pits and taking them out to feed. The turnips thus handled are not so crisp and sweet as those eaten in the field. For the small farmer with his barns arranged to house all his stock and not provided with a silo, roots have the greatest value.

Strawberries for Christmas.

While Kansas farmers have not yet begun to raise strawberries for the Christmas market, there is no telling when they will turn their attention that way. It is not safe to bet on what Kansas people will not do. Strawberries do appear on dinner tables at Christmas in all our large cities, and, of course, are high-priced. They are grown under glass from plants that were started in the open field. Describing the process, the American Cultivator says the soil should be a compost of sods and cow manure, at least one-third of the latter, so rotted down that it can be thoroughly pulverized. This is placed about five inches deep in the benches of the hot-house. The first lot of plants is set in the benches in September, from six to eight inches apart. At the same time young plants are set very close together in cold frames and are covered with hay. The sashes are not put on, as these plants are simply destined to make a later crop, when the first has been sold and the plants taken out. About the middle of October other houses are filled as were those in September, which is to be the second crop in time of readiness for market.

The earliest houses are given heat in November, and the second houses soon after, as the plants in them, having usually been touched by frost, will not come forward as rapidly as those set earlier.

No mulch is used on the benches, lest it cause mildew, but the surface must be frequently stirred, and the fruit when it begins to grow must be kept up from the dirt by resting the stems on crotched sticks.

Quarantine Line for Cattle.

A few days ago a meeting of stockmen was held in St. Louis to consider what changes, if any, are needed in the cattle quarantine line in the Southwest. The meeting especially considered changes to be recommended in the Texas fever quarantine line in Arkansas and Tennessee, as cattlemen and shippers of the North claimed that the line was too far south in those States, and therefore permitted the shipment of many infected cattle. The meeting was called to draft a resolution urging the Secretary of Agriculture to have the United States Bureau of Animal Industry adopt such changes in the line as the association recommended before the coming year. The following committee was appointed: Arkansas, W. G. Vincenheller; Kentucky, Dr. Eiseman; Tennessee, Samuel M. Warren; Missouri, J. R. Rippey; Wisconsin, Dr. H. P. Clute; Illinois, J. P. Lott; Kansas, Frank Weinshenk; Indiana, Mortimer Levering; Oklahoma, Judge R. J. Edwards.

As finally agreed upon, the recommendations were as follows: Those parts of the Wichita reservation in Oklahoma formerly above the line should be below the line; that the entire State of Arkansas should be placed below the line; that the counties of Jasper, Newton, McDonald and Barry in Missouri should be below the line; that the counties of Tipton, Haywood, Lawrence, Giles, Lincoln, Franklin, Coffee, Cannon, Warren, Grundy, Marion, Van Buren, White, Cumberland, Bledsoe, Rhea. Sequatchie, Hamilton, James, Bradley and Polk in Tennessee should be placed below the line. These counties in Tennessee are above the present line. The committee left the remainder of Tennessee above the line, and from Tennessee to the Atlantic ocean and from Oklahoma west the old line prevails.

Good Young Beef Cattle the Best.

At the late convention of the National Live Stock Exchange, at Sioux City, many practical suggestions were offered by practical men concerning the relations between the end men in market—the producer and consumer. The President discussed this subject in his address. He said there are several important changes that the convention ought to recommend to the producer, and among these, he especially urged the matter of selling cattle young. He thought the steer ought to be prepared and marketed either as a yearling or as a two-year-old. In no case keep them beyond three years. It is during these years, he said, that the sap is in the beef, and if fat, the animal is in the best condition for the market he will ever be, or you can ever make him. There is no surplus of bone or fat that matures after the third year that adds to his market value, and then again, after that time a greater quantity and heavier feed is required. The heavy cuts of beef that were once in demand are fast losing their prestige, as now the general inquiry and demand of the customer is for prime young light weights of beef. Evidences of this may frequently be seen in the market quotations of cattle sales, wherein prime yearlings are sold at the same price per pound as prime four-year-old matured and finished cattle, which have cost the producer a goodly sum per animal more to make.

Russian Farmers as Our Competitors.

Among the important commercial factors of the future is the Siberian railway, which is fast nearing completion. It will open a vast region of good wheat growing country, and it is not at all improbable that within ten or fifteen years after the line is in operation, Russian wheat will take the place in European markets which the United States has long held.

The following table shows the relative amounts of wheat imported into England from different countries during the period from 1886 to 1892 inclusive.

Wheat Importations of the United Kingdom.

[Yearly imports into the United Kingdom, by countries, of wheat, and flour represented as wheat in bushels of 60 pounds, for seven years, compiled by the Cincinnati Price Current.]

	1892.	1891.	1890.	1889.	1888.	1887.	1886.
United States	63,246,000	45,164,000	32,109,000	31,764,000	27,341,000	56,941,000	45,900,000
India	23,325,000	24,278,000	17,008,000	17,205,000	15,286,000	15,884,000	20,587,000
Russia	8,144,000	27,165,000	36,194,000	39,800,000	39,888,000	10,309,000	6,926,000
Australia	3,765,000	3,893,000	5,708,000	2,625,000	4,323,000	2,515,000	1,379,000
British North America	7,233,000	5,924,000	2,106,000	2,181,000	2,033,000	7,401,000	5,751,000
Germany	1,132,000	1,333,000	2,055,000	4,739,000	6,094,000	2,880,000	2,460,000
Chile	4,270,000	3,957,000	45,000	1,070,000	2,774,000	4,118,000	3,176,000
Roumania	1,377,000	2,032,000	8,687,000	5,343,000	2,649,000	1,063,000	542,000
Turkey	922,000	2,819,000	1,680,000	1,246,000	341,000	4,000	464,000
Egypt	719,000	1,749,000	793,000	607,000	1,362,000	369,000	76,000
Other countries	6,997,000	5,470,000	6,500,000	2,811,000	4,729,000	2,617,000	1,167,000
Total	121,130,000	123,784,000	112,885,000	109,391,000	106,820,000	104,132,000	88,488,000

It will be seen that in the years 1888, 1889 and 1890, Russia furnished larger quantities of wheat to the British market than the United States did. With the development of new areas, we may expect still more serious competition from that quarter.

About Fall and Winter Top Dressing.

Climatic conditions in Kansas are so greatly different from those of the Eastern States that some farm methods in universal practice there do not apply here with success, as many of us have learned by experience.

As to this matter of fall and winter top dressing, a New England paper says "there are positive advantages of fall top dressing with manure as compared with any other way of disposing of it. In no other way can it be so thoroughly incorporated with the soil, nor can it be in any other way made so useful in giving crops the early start in spring that is always most important in securing a large yield."

This may be true as applied to the soil of Massachusetts, in a region where the annual rainfall is nearly five feet, and where the fall comes early and the winter lasts a long time. But with our loose soil, high level and almost continuous winds and longer periods between showers, as a general rule manure that is spread on the surface of the land and let lie there loses most of its fertilizing value through evaporation and wind. When a lucky time is found and a good rain falls immediately after the manure is scattered, and the weather continues cool a few days, the work is well done. So in winter, if snow fall upon ground freshly covered with manure, the soil gets the benefit.

But the safe and sure way out here is to get the manure on the land as quickly as possible, spread and plow under. Then it gets into the soil to a certainty, and the next year's crop shows it.

Produce What the Market Demands.

Men engage in business in order to earn a livelihood. Hence the rule—"Business is business." Honesty is the best policy always and everywhere, and if a person cannot conscientiously or honestly furnish what his customer wants or in the form he wants, then, of course, that person is excused. His scruples, however, do not affect the disposition of men to want only what suits them, and out of that disposition has grown the rule that gave British manufacturers the lead in the world's commerce—produce what the consumer demands.

When General Grant was President he proposed the sending of purely business men abroad as representatives of this government. He said that men who understood the rules and methods of commerce are much better fitted to promote American trade in foreign countries than are men whose lives have been devoted to professional duties or to ward politics.

And he was right. The man of business habits and training scents the market as the horse does the battle. He sees what the people who buy want to use, and he knows how to report the fact to his people at home so that such of them as are engaged in the particular lines may compete in the market described.

The rule applies to the farmer as well as to the manufacturer. If the market demands a particular grade or pattern of stock or grain or vegetable or grass, produce it. No guide to success in any kind of business effort is so sure to return expected reward as the rule at the head of this article. Make what the market wants and you will always have customers.

Cream of Our Farm Exchanges.

Young chicks are very partial to potatoes and the adult fowls will also eat them readily.

If a heifer has a calf the first year there is very little use in trying to make a milch cow out of her afterwards.

Do not turn cows out too early on the frost-covered alfalfa field. Wait until the sun has warmed things up a little.

Tobacco tea, boiled down until as strong as lye, is said to be sure death to fleas and jiggers on chicks. Apply only a little at a time.

The farmer who grows different kinds of crops and feeds them out to different kinds of stock will, with good management, make the most money.

C. Hickey, in Farm Poultry, tells of a woman who made over $45 from one pair of ducks in one year. It was a Pekin drake, and a duck which was a cross

In several tests made lately with a bunch of average cows fed on alfalfa, mangels, wheat bran and oil meal the milk yield was good and the cost of feed did not exceed 10 cents a cow.

The experiments in liming by the Rhode Island station were continued through the season of '97 with clover and grass. With but one exception the crops showed marked benefit from the application of lime.

Develop the heifer the first year if she is expected to do anything in the dairy. Do not let her run wild after she is weaned. Keep the heifers close at home and have them tame and willing to be handled.

Much more depends upon a proper rotation of crops throughout a series of years than many people believe. Corn,